

HISTORIC PROPERTY INVENTORY FORM

IDENTIFICATION SECTION

Field Site No. 222-U OAHF No. _____ Date Recorded 1 July 1997
 Site Name Historic 222-U Sample Preparation Laboratory
 Common Soil Sciences Laboratory; Geophysics and Geochemistry Building
 Field Recorder Holly K. Chamberlain
 Owner's Name U.S. Department of Energy, Richland Operations Office
 Address P.O. Box 550
 City/State/Zip Code Richland, WA 99352

Status

- ☒ Survey/Inventory
☐ National Register
☐ State Register
☐ Determined Eligible
☐ Determined Not Eligible
☐ Other (HABS, HAER, NHL)
☐ Local Designation

Photography

HCRL: Roll No. 384;
 Photography Neg. No. Frame 6B
 (Roll No. & Frame No.)
 View of West Elevation
 Date 1 July 1997

Classification

District ☐ Site ☐ Building ☒ Structure ☐ Object
 District Status ☒ NR ☐ SR ☐ LR ☐ INV
 Contributing ☒ Non-Contributing ☐
 District/Thematic Nomination Name Hanford Site Manhattan Project and Cold War Era Historic District

Description Section

Materials & Features/Structural Types

Building Type Industrial
 Plan Rectangular
 Structural System Reinforced Concrete
 No. of Stories One

Roof Type

☐ Gable ☐ Hip
☒ Flat ☐ Pyramidal
☐ Monitor ☐ Other (specify) _____
☐ Gambrel _____
☐ Shed _____

Cladding (Exterior Wall Surfaces)

- ☐ Log
☐ Horizontal Wood Siding
 Rustic/Drop ☐
 Clapboard ☐
☐ Wood Shingle
☐ Board and Batten
☐ Vertical Board
☐ Asbestos/Asphalt
☐ Brick
☐ Stone
☐ Stucco
☐ Terra Cotta
☒ Concrete/Concrete Block
☐ Vinyl/Aluminum Siding
☐ Metal (specify) _____
☐ Other (specify) _____

Roof Material

☐ Wood Shingle
☐ Wood Shake
☐ Composition
☐ Slate
☒ Tar/Built-up
☐ Tile
☐ Metal (specify) _____
☐ Other (specify) _____
☐ Not visible _____

Foundation

☐ Log ☐ Concrete
☐ Post & Pier ☐ Block
☐ Stone ☒ Poured
☐ Brick ☐ Other (specify) _____
☐ Not visible _____

Integrity

(Include detailed description in

Description of Physical Appearance)

| | Intact | Slight | Moderate | Extensive |
|------------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|
| Changes to plan | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Changes to windows | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Changes to original cladding | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Changes to interior | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other (specify) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

State of Washington, Department of Community Development
 Office of Archaeology and Historic Preservation
 111 21st Avenue Southwest, Post Office Box 48343
 Olympia, Washington 98504-8343 (206)753-4011

LOCATION SECTION

Address 222-U Building, 200 West Area
 City/Town/County/Zip Code Richland/Benton County/99352
 Twp. 12 N Range 26 E Section 7 1/4 Section NW 1/4 1/4 Sec _____
 Tax No./Parcel No. _____ Acreage _____
 Quadrangle or map name Gable Butte, Wash., 7.5 minute series
 UTM References Zone 11 Easting _____ Northing _____
 Plat/Block/Lot _____
 Supplemental Map(s) _____



High Styles/Forms (Check one or more of the following)

- | | |
|---|---|
| <input type="checkbox"/> Greek Revival | <input type="checkbox"/> Spanish Colonial Revival/Mediterranean |
| <input type="checkbox"/> Gothic Revival | <input type="checkbox"/> Tudor Revival |
| <input type="checkbox"/> Italianate | <input type="checkbox"/> Craftsman/Arts & Crafts |
| <input type="checkbox"/> Second Empire | <input type="checkbox"/> Bungalow |
| <input type="checkbox"/> Romanesque Revival | <input type="checkbox"/> Prairie Style |
| <input type="checkbox"/> Stick Style | <input type="checkbox"/> Art Deco/Art Moderne |
| <input type="checkbox"/> Queen Anne | <input type="checkbox"/> Rustic Style |
| <input type="checkbox"/> Shingle Style | <input type="checkbox"/> International Style |
| <input type="checkbox"/> Colonial Revival | <input type="checkbox"/> Northwest Style |
| <input type="checkbox"/> Beaux Arts/Neoclassical | <input type="checkbox"/> Commercial Vernacular |
| <input type="checkbox"/> Chicago/Commercial Style | <input type="checkbox"/> Residential Vernacular (see below) |
| <input type="checkbox"/> American Foursquare | <input checked="" type="checkbox"/> Other (specify) |
| <input type="checkbox"/> Mission Revival | <u>Industrial Vernacular</u> |

Vernacular House Types

- ☐ Gable Front ☐ Cross Gable
☐ Gable Front and Wing ☐ Pyramidal/Hipped
☐ Side Gable ☐ Other (specify) _____

NARRATIVE SECTION

Study Unit Themes (check one or more of the following)

| | |
|--------------------------|-------------------------------------|
| <input type="checkbox"/> | Agriculture |
| <input type="checkbox"/> | Architecture/Landscape Architecture |
| <input type="checkbox"/> | Arts |
| <input type="checkbox"/> | Commerce |
| <input type="checkbox"/> | Communications |
| <input type="checkbox"/> | Community Planning/Development |

| | |
|--------------------------|---------------------------------|
| <input type="checkbox"/> | Conservation |
| <input type="checkbox"/> | Education |
| <input type="checkbox"/> | Entertainment/Recreation |
| <input type="checkbox"/> | Ethnic Heritage (specify) _____ |
| <input type="checkbox"/> | Health/Medicine |
| <input type="checkbox"/> | Manufacturing/Industry |
| <input type="checkbox"/> | Military |

| | |
|-------------------------------------|---|
| <input type="checkbox"/> | Politics/Government/Law |
| <input type="checkbox"/> | Religion |
| <input type="checkbox"/> | Science & Engineering |
| <input type="checkbox"/> | Social Movements/Organizations |
| <input type="checkbox"/> | Transportation |
| <input checked="" type="checkbox"/> | Other (specify) <u>Manhattan Project/Cold War Era</u> |
| <input checked="" type="checkbox"/> | Study Unit Sub-Theme(s) <u>Health Safety, Operations</u> <u>Support, Social History</u> |

Statement of Significance

| | | | |
|-------------------------------------|---|----------------------------|---|
| Date of Construction | <u>1944</u> | Architect/Engineer/Builder | <u>E.I. du Pont de Nemours & Co. Inc.</u> |
| <input checked="" type="checkbox"/> | In the opinion of the surveyor, this property appears to meet the criteria of the National Register of Historic Places. | | |
| <input checked="" type="checkbox"/> | In the opinion of the surveyor, this property is located in a potential historic district (National and/or local). | | |

The 222-U Building derives its primary significance from its original use as a training facility for chemical separations workers in the B and T plants, and for its later use as the headquarters for all geological and hydrological studies at the Hanford site, primarily in relation to soil capabilities in radioactive waste disposal.

One of three originally identical laboratories at Hanford Engineer Works, the 222-U Sample Preparation Laboratory was declared operational in December 1944. Completion of the building had been delayed a number of times, largely due to the typical wartime shortage of construction workers. Construction administrators decided in August 1944 to emphasize finishing T Plant-related buildings instead of those associated with U Plant, in order to be able to begin operations at at least one of the twin chemical separations facilities at this critical point in World War II. However, work did continue on 222-U as allowed by the availability of labor.

(See continuation sheet)

Description of Physical Appearance

A windowless, one-story rectangular building, 222-U is made with reinforced concrete frame construction. The interior and exterior walls are all made of concrete block, except for some movable interior metal partitions. The original Sample Measuring and Instrument Repair rooms in the southern portion of the building were surrounded with extra reinforcing consisting of 2-foot thick concrete exterior walls and roof, and two layers of 4-inch thick concrete flooring insulated with a 2-inch layer of cork in-between to render them invulnerable to explosions. The two rooms were separated by a 4-inch thick concrete wall. The building has five outside pedestrian door entrances, all with metal doors. The door on the south side was originally an emergency exit from the Sample Measuring Room. The two entrances on the west side of the building have small outside vestibules. Louvered vents are set into the walls. The concrete roof is topped with built-up tar and gravel.

The 222-U Building has been altered over the years in support of its various functions. The basic exterior building configuration has remained largely the same, except for the circa 1980 addition of a small heating, ventilation, and air conditioning unit at the northwest corner. The interior room arrangements have been somewhat altered, including the subdivision of the centrally-located, originally open Sample Preparation Laboratory into four offices and a small laboratory. There have been a number of changes in equipment, reflecting the alteration of the building into a soil science/hydrology facility and technological upgrades, including the addition of an electrolytic tank in 1965. The largest number of alterations have been to the service piping, electrical, heating, and air condition systems, and ventilation facilities -- modifications to meet increased worker comfort, safety, and radioactive containment requirements over time. These included improvements to the laboratory air conditioning in 1960 and the laboratory hood exhaust system in 1973. Other alterations reflect general maintenance needs, such as the re-roofing done in 1958. Changes in the function of the building resulted in the Sample Measuring and Instrument Repair rooms being turned into storage areas.

(See continuation sheet)

Major Bibliographic References

(See continuation sheet)